3.00.00.00 - PROGRAMMING AND BUDGETING

3.01.00.00 - DEPARTMENTAL DATA BASES AND SYSTEMS

3.01.01.00   General

The Department uses numerous data bases and systems, and those used most frequently by R/W Planning and Management personnel are discussed in the table entitled "Departmental Data Bases and Systems" at the end of this section.

3.01.02.00   R/W Management Information System

The R/W Management Information System (RWMIS) consists of a series of monthly reports and special ad hoc reports that draw data from several other systems and files. The primary sources of RWMIS data are listed below.

RWMIS also uses other systems to collect data including TPRX (Excess Land System), TPRU (Utilities System), RWPS (Property System), and IRWS (Integrated R/W System). All R/W functions are responsible for maintaining their own systems and for providing P&M with data for input to R/W's general systems. These systems depend on accurate and timely input by district R/W personnel.

RWMIS DATA SOURCES

- **TPRC** - The TPRC file stores all R/W workload and production data by EA and Management System Activity (MSA) or Work Breakdown System (WBS) Codes. It is the source of workload data for estimating resource needs by the various R/W functional areas and of production data for tracking accomplishment and efficiency at the district level and statewide. The file has three record types (screens): Type 1 includes data for Airspace (20.70.040 Program); Types 2 and 3 include project-related data. Data entry can be performed at any time during a given month, except for production input that must be entered during the first six working days of the month. As data is entered, it is stored in an update file until the sixth working day of the month when the TPRC system "rolls" the update file into the Master file and the data becomes available to RWMIS. The Master file remains constant until the next month's "rollover." RWMIS calculates PY data for Airspace, Planning and Management, and Administration from data in TPRC.

- **TRAMS** - RWMIS merges timesheet data from TRAMS with production data from TPRC to produce various reports for monitoring expenditures, establishing norms, and to estimate reimbursement costs for Local Assistance work.

- Project Scheduling Tools – The Department uses project management scheduling tools to assist in project schedule development and maintenance. These products automate the calculations of time and resource relationships and allow rapid analysis of many schedule alternatives. Historically, the Department has used the Person Year Project Scheduling and Cost Analysis system (PYPSCAN) exclusively to schedule and monitor projects. More recently, newer scheduling software tools have been introduced including Primavera, Microsoft Project and eXpert Project Management (XPM). Each of these systems uses differing methodologies and has various features and performance characteristics. Currently, XPM is the departmental tool to provide information for Capital Outlay Support budgeting and monitoring of project schedules.

- Project Management Control System (**PMCS)** - The PYPSCAN (Person Year and Project Scheduling and Cost Analysis) feature of PMCS allows the department to schedule project delivery and estimate PYs required by each capital outlay support function. The PYPSCAN milestones are compared with the scope of the project as determined in XPM.

- **TRS** – The automated Time Reporting System (TRS) provides project managers with timely labor expenditure information. This system passes information on time worked, activities and projects charged, and leave taken to the accounting and personnel systems.

RWMIS DATA SOURCES
• **PSCS** – The Project Schedule Control System (PSCS) integrates the data from XPM and TRS so project managers can compare project workplans with actual progress and resource utilization.
• **PMDW** – Project Management Data Warehouse (PMDW) is a database containing general project information, project schedule, capital costs and operating expense data extracted and integrated from existing databases. The data is accessible to project delivery staff and managers for query purposes using desktop computer query tools.

3.01.02.01 Integrated R/W System

IRWS is a Teale-based, on-line computer database that collects and ties together information from various R/W functions including R/W Engineering, Appraisals, Acquisitions, Excess Land, Property Management, and Planning and Management. The system is designed to minimize errors caused by repeated copying of routine data. R/W personnel throughout the State can readily access information on parcels and projects.

IRWS produces a number of reports that track workload, project certification, condemnation, and parcel progress. The system is capable of downloading data to personal computers to produce many standardized R/W documents.

IRWS interacts with the Property Management, Excess Land, and Utility Relocation systems and is designed to interface ultimately with PMCS and other systems. IRWS also produces ad hoc reports that provide information to the CTC, FHWA, legislature, governor, and Caltrans management.

DEPARTMENT DATA BASES AND SYSTEMS		
Data Base/System	**Abbreviation**	**Description**
Project Management Control System	PMCS	PMCS is a computerized system for managing and controlling highway projects of all sizes from the earliest planning phase to contract completion, then back into the inventory phase. All project data can be viewed on-line, and most data can be updated through computer terminals.
		Since PMCS became fully operational on April 1, 1976, there have been major updates and revisions. R/W capital costs were added in 1982 and the **P**erson **Y**ear and **P**roject **S**cheduling and **C**ost **AN**alysis (PYPSCAN) subsystem was implemented in May 1980.
		Refer to the PMCS User Manual issued by the State and Local Project Development Program for details on how to use the system and the purpose of the screens.
Transportation Accounting and Management System	TRAMS	TRAMS was developed in 1983 to provide both accounting and data processing functions. The Accounting Service Center is responsible for the operation, maintenance, and integrity of TRAMS. They are also responsible for publication of the Accounting Manual, Coding Manual, and TRAMS Procedures Manual.
		Accounting inputs TRAMS data primarily from terminals connected directly to TRAMS or to a network of PRIME minicomputers.
		There are various statewide integrated on-line information subsystems linked to TRAMS. Those most relevant to R/W are:
		• PRIME Expenditure Authorization System
		• PRIME Accounts Receivable System

DEPARTMENT DATA BASES AND SYSTEMS		
Data Base/System	**Abbreviation**	**Description**
		• Capital Outlay Monitoring System
		• Current Billing and Reporting System
		• R/W Property System
		• Excess Land Management System
		Data passes back and forth between TRAMS and most subsystems automatically or is entered from magnetic tape media provided externally.
Capital Outlay Monitoring System	COMS	COMS uses a minicomputer to assemble data for tracking encumbrance and expenditure of funds for capital outlay projects. The system has two files, the EA Table and a temporary holding file. The EA Table stores the masterfiled EAs, and the temporary file stores the EAs being processed. The districts key, modify, and supplement EAs; Project Control in Accounting reviews the work and assists the districts.
PRIME Expenditure Authorization System	EAS	EAS was developed as part of COMS and allows districts to enter data directly into their own data bases. The PRIME System expedites preparation, review, and approval of EAs. See EAS User Guide issued by the Accounting Service Center.
PRIME Accounts Receivable System	ARS	ARS is an automated accounts receivable system that draws information from other subsystems such as the R/W Property System (RWPS). ARS produces billings and accounts for the collection of R/W rentals, excess land sales, airspace income, overpayment of utility relocations, logo, and kiosk program revenues.
Current Billing and Reporting System	CBARS	CBARS is used to obtain reimbursement from FHWA. It allows for efficient and timely billing of eligible and participating expenses after disbursements have been made. CBARS has on-line access to federal project information, provides daily updates of project information, and can produce routine and customized reports either on a periodic or as-needed basis. All accounting transactions in CBARS come from TRAMS and transactions generated in CBARS update TRAMS. The two systems must always be in balance. EAs are added to CBARS nightly based on the Federal Project Numbers on the "U" lines of the EAs. Since inaccurate information could adversely affect billing of eligible costs to a federal project, federal-aid information on the "U" lines must be proper and accurate.
Federal Aid Data System	FADS	FADS was created to replace manual processing of E-76s (Request For Approval/To Proceed) and PR-37s (Project Status Records) with an electronic transfer data system. This system allows the Department to enter project information directly and to transmit the data electronically to FHWA's Fiscal Unit in Sacramento. FHWA is able to review and approve project data expeditiously and to process the data into the Transportation Computer System in Washington, D.C.

DEPARTMENT DATA BASES AND SYSTEMS		
Data Base/System	**Abbreviation**	**Description**
Data Warehouse Database		The Project Management Data Warehouse project is a statewide automated computer system that extracts data from existing systems and stores the data on a single relational database for query purposes. The data warehouse contains general project information, project schedule dates, PY information, and capital cost information extracted and integrated from other systems.
Person on Board Equivalent	POBE	POBE is a database that stores information to support the Department's hiring process. All district and headquarters offices use the system to track the positions available, add new positions, and update existing positions.